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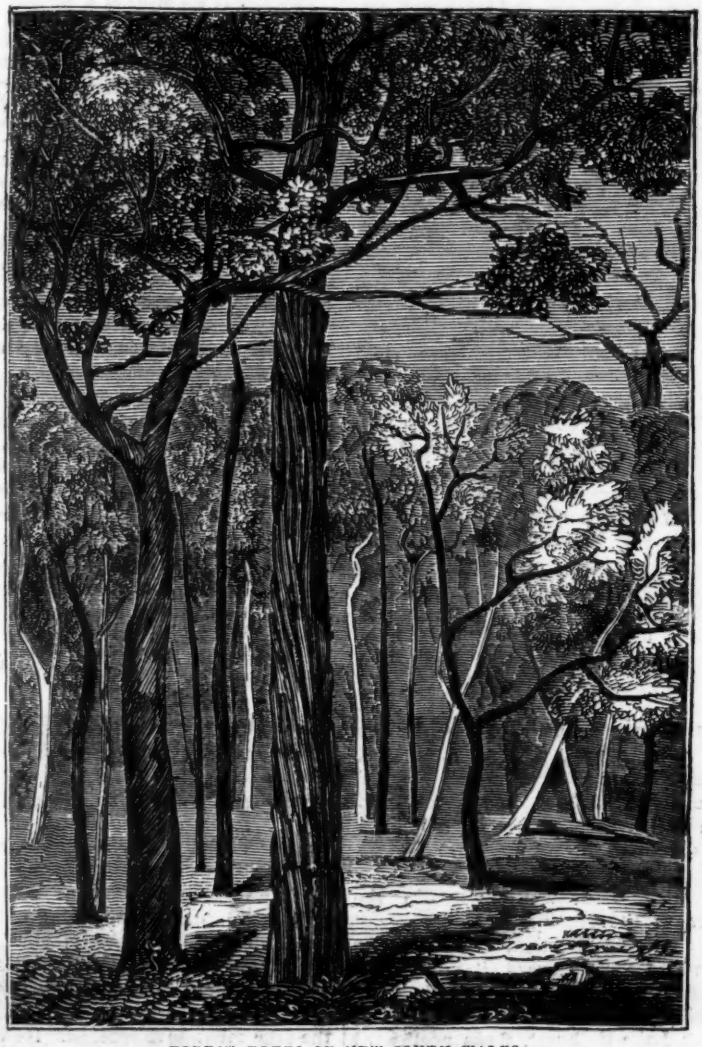
SKETCHES OF NEW SOUTH WALES. No. V.



FOREST TREES OF NEW SOUTH WALES.

A Brief Sketch of the County of Argyle.—Scenery.—Vegetation.—Animals.

In wandering through the interior of New South Wales (which is commonly termed "The Bush," the surface of the country being generally covered with wood), the traveller meets with various descriptions of forests, some of which present agreeably-diversified scenery, whilst others are altogether barren and tedious to pass through. Nothing, therefore, can be more cheering than to burst at once into an open and delightful country, after having been for some time entangled, perplexed, and wearied in threading the recesses of a scrubby and gloomy forest. Then the impediments that have hitherto prevented his progress, and bewildered him, are all in his rear, and he sees the unveiled face of Nature, smiling in her own beauty, and inviting the soul of man to rejoice in her luxuriance.

Such may have been the feelings of the adventurers who, having passed the tedious brushes of the Wombat and Bargo forests, first beheld the clean, open, and park-like appearance which characterizes the county of Argyle. This noble expanse of country is beautifully studded with trees, whose *silvery* trunks and elegant foliage, ornament the rich pasturage which they shade. It may be necessary to remark, that most of the trees of the species *Eucalyptus*, and the whole of that variety of gum-trees, are ever-

green, and shed their bark annually. When the season arrives at which this natural process takes place, the old bark is seen to divide, split, and burst, as if the tree had grown out of its coating; and like the leaves of England's oak in Autumn, the bark sticks and dangles in withered shreds upon the tree it had once adorned, until the rude blast separates them, and they fall to the ground. It is then that the trunk and branches of the trees discover their silvery appearance, and present a rich bloom like that of the ripe, but untouched plum.

As it was in the county of Argyle that I first beheld the natives in their natural simplicity, it may not be uninteresting to give some account of the features of that part of the colony, and show what Nature has done for the supply of the humble tribes of men who were the original possessors of the soil.

The whole colony of New South Wales is divided into counties, the boundaries of which are marked by natural features, as rivers, lakes, and dividing ridges of hills. The method employed, and the difficulty which has been gone through in surveying and exploring these features will be sufficient to form a subject for another paper.

In the present paper it is my intention to confine myself to a description of the county of Argyle, which lies about one hundred and fifty miles to the south-west of Sydney. It is bounded on the north by the Burra-Burra Lagoon, and the Guineacor Creek; on the west by the Cullaria Range; on the south by a part of Lake George, and a rivulet, which forms one of the sources of the Shoalhaven River; and on the east by a part of the Shoalhaven River, and the Uringalla and the Wollondilly Rivers. The park-like forests of this county are relieved in many parts by plains, or portions of ground altogether destitute of timber. These plains vary in extent and form, some are hilly and undulating, while others appear a mere flat, and the generality of them possess a *good* soil. It appears as if the seed of the tree had never been, as it were, scattered upon them, for it cannot be disputed, that the trees which surround these plains would also vegetate upon them. The principal plains of this country are the "Mulwaree" and the "Bredalbane;" upon the former, (which is by far the most extensive,) a township has been established within the last four years, which bears the name of Goulburn. The country is well watered by two principal rivers, with their tributary streams, and several lagoons, lakes, and chains of deep ponds; the names of these rivers are the "Wollondilly" and the "Cookbundoon." The first, which rises in the north-west corner of the county, flows for about twenty miles in a southerly direction, then sweeping with a great bend to the eastward, it waters the whole centre of the county, and is joined at the Goulburn township by the Mulwaree stream, which, taking its rise near Lake Bathurst, flows northward through the plains. It then takes a north-easterly course, and dips into a mountainous country, where it receives the waters of the Cookbundoon River, and the Guineacor creek, the junction of the latter forming the north-eastern boundary of the county. The district enriched by these two rivers, is beautifully diversified with rich alluvial flats, undulating forest lands and plains, and in many places with high towering ridges clothed with rich verdure, and crowned with picturesque and lofty trees. These grassy ridges are sometimes curiously intersected by romantic ravines or gullies, and many possess a good whinstone, and limestone soil. Here and there also, quarries of very superior marble have been found, which, as the roads continue to be improved, will, of course, be turned to good account.

The beds of these rivers, particularly where they enter the mountainous country of the Cookbundoon, are generally very rocky, and frequently covered with rounded stones, which probably may have been displaced by the force of floods, and washed down the stream. In such places the banks are often fringed with river-oaks, which attain a lofty stature and considerable girth: though named the river-oak, they by no means resemble that tree so familiar to us, but exhibit more of the characteristics of the fir, their foliage being of a dark green, and the style of their growth very different. At the junction of the Teralga Creek with the Guineacor, these trees are seen to great advantage; but where the Wollondilly flows through the more undulating parts of Argyle, it is characterized by long reaches of water, varying from two to five miles in length, and from thirty to sixty yards in breadth, and in some parts broader. In dry seasons these beautiful sheets of water are connected one with the other, by little rivulets capable of being crossed by a leap. The bed of the river being nearly dry, they have been correctly denominated "Chains of Ponds." The stratum intersected by the river in these instances consists often of a rich earthy nature, and sometimes of a red sandy loam.

The still smooth waters of these reaches are generally very deep, and eels to the enormous weight of twenty pounds have been caught in them. Here ducks of various descriptions, the stately black swans, and the far-famed duck-billed platypus* were to be seen in abundance. The latter animals float on the surface of the water, merely showing a part of their back, and are so quick of sight, that it is difficult to shoot them without a percussion fowling-piece. The very moment they perceive the flash, or hear a noise, they slap the water with their tails, and dive under.

The principal lakes in this county are, Lake George, (called by the natives, Weriwa) and Lake Bathurst, both of which are situated to the south, and the Burra-Burra Lake, which lies to the north-west corner of the county. In the neighbourhood of these lakes, as well as in many other places, there are lagoons of various forms and sizes, which are always covered with reeds.

Lake George, which is of an oblong figure, is about seventeen miles from north to south, and between seven and eight miles broad. Its *western* side runs in almost a straight line, and a high steep grassy ridge falls close upon its banks the whole distance. On this side of the lake the water is very deep, but shelves to a mere shallow on the opposite side of the lake. Extensive flats of sand and mud line the margin of the eastern side, producing a more irregular and indented line than the other. On these flats, numerous dead trees, standing in their full size, are to be seen, which have evidently been destroyed by submergence beneath the water, and show how much the limits of the lake must have receded. Its waters are brackish, and unpleasant to the taste, and its surface presents but a discoloured and muddy appearance. We were informed by a very old black, that he recollected when the lake was nothing more than a chain of ponds.

Lake Bathurst, which lies about eight miles to the east of Lake George, is the next in magnitude, and is separated from the former by a high range of mountains, called Alianoyonyiga. This lake is of a more circular form, and about twelve miles in circumference. The scenery around it is varied and beautiful, and there are two or three small rocky isles on it, whither swans and other water-fowl resort to lay their eggs. The water of this lake is clear to the eye and pleasant to the taste, and its depth is frequently very con-

* See *Saturday Magazine*, Vol. I., p. 115

siderable. The Burra-Burra Lake may be more properly called a lagoon, as its surface is for the most part covered with reeds. It is not so large as Lake Bathurst, and is situated on very high land, near which the source of the Guineacor Creek takes its rise. The prodigious number of water-fowl, of every description, with which these lakes and rivers abounded when this part of the county was first explored, was truly surprising. The writer himself has seen a cloud of wild ducks, extending for apparently a mile in length, alight upon the waters of Lake George, till they appeared like an island, or an extended sand-bank.

The general character of the country in Argyle may be denominated "open forest-land," that is, where the trees (which are not the largest in size but rich in foliage,) stand at a considerable distance one from the other, and the ground, entirely free from underwood or scrub, is clothed with excellent pasturage; thus the general aspect of the country, though intersected here and there with tangled tracts of underwood, presents an appearance not unlike that of an English park.

Forests in New South Wales are generally named after the tree which predominates in them; hence we have "Stringy-Bark Forest," and "Iron-Bark Forest," &c., both of which kinds are frequently found in Argyle. The stringy-bark is a gloomy-looking tree, and gives its sombre character to the forest named after it. It varies in height, and generally grows straight, but it is by no means ornamental or rich in foliage. In some places, trees of this species grow so close together, with tall sapling and leafy "scrub" shooting up between them, as to render travelling on horseback difficult and tedious, and quite impracticable with a dray or cart. The *bark* of these trees is exceedingly useful, both to the native and the white man; to the blacks it answers the purpose of a rope, as it can be torn from the trunk in strings, of any thickness or length required; it is also taken from the tree in whole sheets, for the purpose of making their gunyas, and for roofing huts. To the white adventurer it offers the same advantage, and affords material for kindling a fire in the wet weather, as the inside of the bark is very dry, and when rubbed becomes like tow, igniting instantaneously. The natives occasionally set fire to the grass in particular spots, for the purpose of insnaring and spearing the kangaroo, but it is quickly replaced by new and vigorous herbage. It sometimes happens from this circumstance that a whole district, for several miles, has been set on fire in the dry seasons, and this, in the neighbourhood of a settlement or farms, has been often attended with serious consequences. In the progress of the flames, the trees of this species are sure to be the first to ignite, and the sooty and flammiferous nature of the bark, often gives to the adventurer, on emerging from these forests, the appearance of a chimney-sweep. This remark will likewise justify the title of "gloomy" which I have given them, as they offer black and dismal masses, hovering about the limits of vegetation and death.

The "Iron-Bark Forest" is more open, possesses generally better pasturage, and is altogether more cheerful than the former. The bark of these trees is very hard, and roughly ribbed on the outside. It runs in strips from the tree, like longitudinal bars of iron, producing a formidable and lasting coating; they often grow from fifty to sixty feet in height without a branch. The timber is very useful to the settler, being very heavy and durable. It is used very often for splitting shingles, with which, as a substitute for slates, the houses in New South Wales are roofed; its ordinary use, however, is to furnish posts and rails for fencing in farms and paddocks. The accompanying sketch is a correct representation of the trees here mentioned.

In this account of trees the "Forest-Oak" must not be forgotten. In foliage it resembles the River-Oak before mentioned, though it does not reach so great a height or size, and it is often to be found in the Iron-Bark Forests. The grain of this tree runs in vertical stripes of red, mixed with a yellowish colour, and is considered the best wood for splitting shingles. Neither of these trees shed their bark annually, as is the case with the variety of the Gum-trees which flourish in the Open Forest-land.

Another kind of forest-tree, which is also exempt from shedding the bark, and which, from its singularity, is worthy of being mentioned, is called the Apple-Tree, and as it grows generally in the richest alluvial flats, it is considered an indication of good soil, but neither has this tree any claim of fraternity with the apple-tree of our orchards. The reason of this appellation was for a long time a mystery to me, nor could any to whom I applied solve the problem. One day, however, I observed a black making an incision with his tomahawk into one of these trees, which produced a clear watery fluid, to which he applied his lips and seemed pleased with the draught. I then requested him to make an opening for me, which he did, and I caught more than a pint of fluid in a tin vessel, which upon tasting, I found to possess an acidity by no means unlike cider. Indeed the rough cider which is generally used by the hard-working labourers of Devonshire, is not at all more pleasant to the palate than the juice thus procured.

Besides these the Box-tree is seen frequently in the open forest land, but I am not aware that it is put to any particular use, or is considered of any value by the colonists. These trees which I have here enumerated, are the principal, and the most widely disseminated of the species *Eucalyptus*, which forms the forests of Argyle; and though there is a great similarity in the appearance of foliage and leaves of these several trees, there is evidently a great difference in the material and virtue of the wood and bark. The wood of some burns clear and bright, whilst that of others will not take the fire without trouble, but burns black, or rather produces black ashes, and will almost immediately go out if neglected. Among the latter I can particularly mention the wood of the stringy-bark tree, and one or two species of the common gum-tree; but the oak, the apple-tree, and the red-gum, make brilliant fires, which will continue to burn for a long time.

Such, then, as I have attempted shortly to describe, is the general appearance of the forests and plains, which distinguish the county of Argyle from the country which the traveller passes through from Sydney, before he arrives at Mulwaree Plains. These, but twelve years ago, were in the quiet and undisturbed possession of the humble native tribes, and the animals indigenous to the county. Then might have been seen the black, proud of his territory, wandering in full freedom and independence, contented with the supply of nature's wants by the means which nature afforded him. Then, too, the explorer might have beheld a herd of kangaroos frisking together playfully in some rich and sequestered part of the forest,—the emu majestically stalking over the plain, the heavy-winged turkey selecting carefully his choice food, and various other birds and animals all enjoying themselves as if unconscious of being disturbed. Then he might have heard the very trees themselves sounding with

life; parrots of all colours rushing through the foliage, the frequent flap of the pigeon's wing, and the *wanga wanga*, (a large blue pigeon,) and flocks of the cautious snow-white cockatoo. Of the wild pigeon there are two different sorts, "the bronze wing," and that called by the blacks the "wanga wanga." The first is a beautiful bird, and about the size and shape of the common pigeon. Its neck is crested with gold and purple, and the outside of the wings is adorned with glittering gold, whilst the inside is of a beautiful pink. This kind is the most numerous: the other is more like the tame pigeon, its colour being blue and white, but considerably larger. The flesh of both is very good, the bronze being of a brown colour when cooked, the flesh of the other perfectly white, like the common turkey, and of the most delicious eating. The cockatoos may be said to be birds of great caution and forethought; when disturbed in their flight they make a tremendous screeching, and a great body of them may be seen to pitch upon one tree, while one or two will remain behind as if to observe the action of the intruder, and as soon as he has approached sufficiently near, they make a signal to the others, who again take wing and follow the direction of their leader, who precedes them at some little distance. In this manner they will often weary the most indefatigable sportsman. These birds, however, are great enemies to the settler, as they are exceedingly fond of grain and the Indian corn; and unless they are well watched, they often effect serious damage in a very short time. It may also be remarked of them, that wherever they are found "good water" is sure to be in the neighbourhood.

But how has the scene been changed within the last few years? There is now not a section of land in the whole county of Argyle that is worth possessing, but what is in the occupation of the white man. The tide of civilized population has already swarmed into that county; houses and elegant cottages are everywhere to be seen; farms are fenced in, cultivation has made rapid progress; a township has been established, a court of justice erected, and the very spot which but two years before might have been admired for its solitary natural beauties, was soon disgraced by the *gibbet!*

On a clear rising ground at the back of the site of the present township of Goulburn, a gallows and gibbet were erected in the year 1832. Two men (prisoners of the crown,) were condemned for the murder of their overseer, and hung, and afterwards suspended in chains upon a pole about thirty feet in height. When governor Bourke first visited that part of the county in 1833, he ordered them to be cut down, and the writer was present at the time. Prisoners are now generally tried as near the spot where the offence is committed as possible, to prevent their being sent to Sydney, and as a warning to those who fancy they are at a distance from justice, &c.

The kangaroos have either been killed, or have fled in search of more retired forests. Sheep and cattle have taken their place, the emu and turkey are seldom seen, the millions of parrots have even become scarce, and the few harmless blacks remaining, having lost their native energy, now even here court the white man for his rum, his tobacco, and his bread! W. R. G.

THE perverseness of men's dispositions, and the limited faculties we possess, whilst in our present state, will ever raise cavillers against the most clear conviction; but let us shut our ears against their writings, contenting ourselves with the study of the New Testament, and relying upon the assurances the Gospel offers; convinced that this line of conduct cannot injure us, but is likely to lead us to peace and happiness.—P. WAKEFIELD.

IMPROVEMENT OF SMALL PORTIONS OF TIME.

AMONG those who have contributed to the advancement of learning, many have risen to eminence in opposition to all the obstacles which external circumstances could place in their way, amidst the tumults of business, the distresses of poverty, or the dissipation of a wandering and unsettled state. A great part of the life of Erasmus was one continual peregrination; ill supplied with the gifts of fortune, and led from city to city, and from kingdom to kingdom, by the hopes of patrons and preferment, hopes which always flattered and always deceived him; he yet found means, by unshaken constancy, and a vigilant improvement of those hours, which, in the midst of the most restless activity, will remain unengaged, to write more than another in the same condition would have hoped to read. Compelled by want to attendance and solicitation, and so much versed in common life, that he has transmitted to us the most perfect delineation of the manners of his age; he joined to his knowledge of the world such application to books, that he will stand for ever in the first rank of literary heroes. Now this proficiency he sufficiently discovers by informing us, that the *Praise of Folly*, one of his most celebrated performances, was composed by him on the road to Italy, lest the hours which he was obliged to spend on horseback should be tattled away, without regard to literature.—DR. JOHNSON.

THE lives of most are misspent for want of a certain end of their actions: wherein they do, as unwise archers, shoot away their arrows they know not at what mark. They live only out of the present, not directing themselves and their proceedings to one universal scope: whence they alter upon every change of occasions, and never reach any perfection: neither can do other but continue in uncertainty and end in discomfort. Others aim at one certain mark, but a wrong one. Some, though fewer, level at a right end, but amiss. To live without one main and common end, is idleness and folly. To live at a false end, is deceit and loss. True Christian wisdom both shows the end and finds the way; and as cunning politics have many plots to compass one and the same design by a determined succession, so the wise Christian, failing in the means, yet still fetcheth about to his steady end with constant change of endeavours: such one only lives to purpose, and at last repents not that he hath lived.—BISHOP HALL.

LITTLE reliance can be placed upon kind hearts, quick sensibilities, and even devotional feelings, if there is no religious principle to control, and direct, and strengthen them.—SOUTHEY.

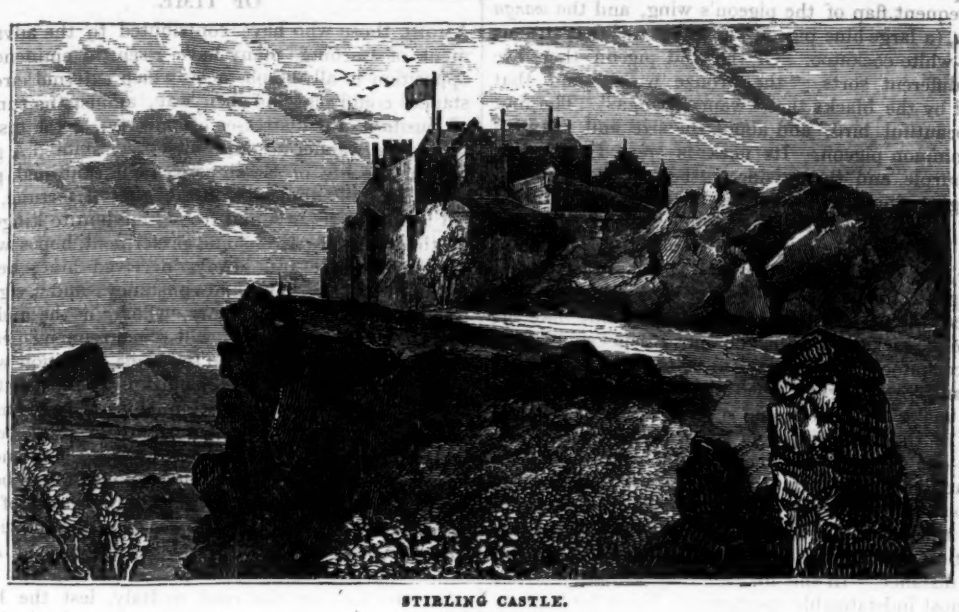
THE most important truths cannot be too early learnt, nor the journey that leads heavenward too soon begun. The enemy is awake while we slumber; and if we neglect to cultivate the good seed, his tares will cover all the surface. —L. B.

IF it be remembered, that human beings are created both for a *temporal* and an *eternal existence*, it must surely appear highly reasonable, that the interests of every individual, as an HEIR OF IMMORTALITY, should be considered in preference to the concerns of his *mortal state*.—MRS. TRIMMER.

How quick is the succession of human events! The cares of to-day are seldom the cares of to-morrow; and when we lie down at night, we may safely say to most of our troubles, "Ye have done your worst, and we shall meet no more."—COWPER.

THERE can be no end without means: and God furnishes no means that exempt us from the task and duty of joining our own best endeavours. The original stock, or wild olive-tree of our natural powers, was not given us to be burnt or blighted, but to be *grafted on*.—COLERIDGE.

STIRLING CASTLE.



STIRLING CASTLE.

O! grander far than Windsor's brow!
And sweeter too the vale below!
Whar Forth's unrivalled windings flow
Through varied grain,
Brightening, I ween, wi' glittering glow
Strevlina's * plain.

There, raptured trace (enthroned on hie,)
The landscape stretching on the ee,
Frae Grampian heights down to the sea,
A dazzling view!
Corn, meadow, mansion, water, tree,
In varying hue.

Dear peacefu' scenes! how sweet to sing!
When youth and love are on the wing;
Whan morn's fresh gales their fragrance bring,
Wi' balmy sough,
And e'ening paints, (how green in Spring!)
The braes o' Tough!

But sweet through a' the varying year,
Will Airthrie's banks and woods appear;
And crouse Craigforth and princely Keir,
That crowns the scene,
And Allan water, glittering near
Its bleaching green.

And Blair, half hid in sylvan shade
Where taste and Home†! delighted strayed
What time when lear and genius fled
Frae bar and town,
To Teath's clear stream, that babbling played
By Castle Down.—MACNIEL.

THE Castle and town of Stirling, which are situated on a precipitous rock overlooking the river Forth, have been in past times the scenes of many a noted event in English and Scottish history. The original castle was of very great antiquity, (the present buildings were erected in 1336,) and was destroyed by Kenneth the Second, after his destruction of the Picts, in his endeavour to obliterate every trace of the people he had subdued‡. Several years afterwards, Donald the Fifth, brother of Kenneth, was defeated and taken prisoner by the Northumbrians and the remnant of the Pictish nation, that had fled for safety into England, while the exterminating acts of Kenneth were in progress. After the defeat of the Scottish king, the Castle of Stirling was rebuilt by his conquerors; this structure was that which preceded the present building. In twenty years after this, the Castle was restored to the Scots, under Kenneth the Third.

In the twelfth century it was considered a place of great importance, and during the reign of King William of Scotland, who was taken prisoner by the English, the castles of Stirling, Edinburgh, Roxburgh, and Berwick, were placed in the hands of that nation as a security for the payment of the king's ransom; but in the reign of Richard Cœur de Lion, it was restored to the Scotch, although the ransom was not entirely paid, on condition of their contributing a sum of money to assist in the fitting out of the Crusade to the Holy Land.

In the year 1297, while Edward the First of England was abroad in Flanders, the neighbourhood of Stirling Castle was the scene of a dreadful slaughter of the English, by the forces under the command of the famous Wallace. The English generals had most indiscreetly ventured to cross the Forth with their army, at a narrow wooden bridge at Stirling; the consequence was, Wallace was enabled to attack and destroy them in detail, before any considerable numbers could assemble on the opposite side of the river. Cressingham, one of the English leaders, to whose impetuosity the error was attributed, lost his life in the conflict.

On the return of Edward from Flanders, he proceeded to Scotland; and after subduing the country and taking possession of the other strong places, he appeared before the Castle of Stirling, and summoned the garrison to surrender; but they remained obstinate, "contemptuously rejecting repeated charges, despising admonitions from Edward to yield, but pillaging and destroying his subjects whenever opportunity offered."

Edward at length assembled a parliamentary convention at St. Andrew's, and after a solemn trial, declared the garrison outlaws; this, however, being ineffectual, he laid close siege to it, with all the English he could muster, and such of the Scotch troops as had submitted to him.

The besieged made a most desperate resistance for three months, until all their shelters were beaten down by the vast stones and leaden balls thrown from the engines of the besiegers, which had been

* Stirling. † Lord Kames.

‡ This happened about the middle of the ninth century, when Kenneth made himself master of the whole of Scotland; before that time all the northern and eastern parts of Scotland were in the hands of the Picts, and even for a time part of Northumberland.

raised higher than the walls, the ditches having also been filled up with earth and stones, and every preparation made for a general assault; the besieged pleaded for mercy, and employed some of Edward's nobles to intercede for them. The English king, however, was deaf to their entreaties for several days, during which the garrison ceased from making any further defence. At last he granted leave to William Olyford, with twenty-five of the chief men with him, two of whom were monks, to come into his presence, where, in an humiliating posture they made an appeal to his clemency, by submitting their persons, unconditionally, to his will. This moved Edward's compassion; he spared their lives, and commanded the lieutenant-marshal to detain them prisoners without fetters. Olyford was sent to the Tower of London; and the rest, being more than one hundred and forty in number, were disposed in prisons in different parts of England.

After the base betrayal of Wallace, and his execution, the Castle was besieged in 1312 by Edward Bruce, King Robert's brother; he failed, however, in taking it, but entered into an agreement with the governor, that if it was not relieved by the English by the end of twelve months, it should be delivered up to the Scottish king. Soon after this, the English sustained a signal defeat at Bannockburn, and Sir Philip Moubray, the governor, surrendered the Castle to Robert and became his vassal. Immediately after this, the second Castle of Stirling was destroyed.

> . . . . . O Bruce! the morn that shone
> Bright, bright! whan (Edward's host o'erthrown)
> High, on yon proud hill's standard stone,
> Thy banners flew;
> While freedom loud, in raptured tone,
> Her clarion blew!
> Enchanting morn! whase magic reign
> Brak forging thraldom's galling chain;
> Led Ceres, wi' her laughing train,
> And golden store,
> Round Bannockburn's ensanguined plain,
> And Carron's shore.

In 1335, the English, under Edward the Third, having been successful at the battle of Halidown Hill, rebuilt the present fortress on the ancient ruins. Two years afterwards, this fatal object of contention between the two kingdoms was recaptured by the Scotch under Douglas and Murray, and was never again retaken by the English, who, after this period, were never able to penetrate so far into Scotland. But, after England and Scotland had submitted to one king, James the Sixth of Scotland, and First of England, it was in 1651 besieged by Cromwell, and taken by General Monk. This general carried the Scottish records, which had been brought here from Edinburgh Castle, to London. Nine years after, these records were packed up in hogsheads by order of Charles the Second, and sent off by sea to Scotland, but the ships were cast away near Berwick, and the valuable documents were unfortunately lost.

As if this unfortunate fortress was for ever to be the scene of violence, it had to endure another (its last) siege in 1746, when it was attacked by the rebels under Lord John Drummond, Lord Lewis Gordon, the Master of Lovat, &c., who gained possession of the town by a treaty of capitulation.

From the summit of the castle-rock of Stirling, the view is most extensive and delightful, the country being in a high state of cultivation, and intersected by the wanderings of the river Forth, which at length empties itself in the farthest horizon, in the beautiful Firth that bears its name. While to the north the Highlands of Perthshire, form a fine contrast to the intervening level country.

METHOD OF FEEDING HOGS IN THE NEW FOREST DURING THE AUTUMN.

THE woods of the New Forest afford excellent feeding for hogs, which are led, in the Autumn season, into many parts of the forest, but especially among the oaks and beeches of Boldre Wood, to fatten on mast. It is among the rights of the forest-borderers to feed their hogs in the forest during the *pawnage-month*, as it is called, which commences about the end of September, and lasts six weeks. For this privilege they pay a trifling acknowledgment at the Steward's Court at Lyndhurst. The word *pawnage* was the old term for the money thus collected.

The method of treating hogs at this season of migration, and of reducing a large herd of these unmanageable brutes to perfect obedience and good government is curious. The first step the swineherd takes is to investigate some close-sheltered part of the forest, where there is a conveniency of water, and plenty of oak or beech-mast, the former of which he prefers when he can have it in sufficient abundance. He fixes next on some spreading tree, round the bole of which he wattles a slight circular fence, of the dimensions he wants, and covering it roughly with boughs and sods, he fills it plentifully with straw or fern. Having made this preparation, he collects his colony among the farmers, with whom he commonly agrees for a shilling a head, and will get together perhaps a herd of five or six hundred hogs. Having driven them to their destined habitation, he gives them a plentiful supper of acorns or beech-mast, which he had already provided, sounding his horn during the repast. He then turns them into the litter, where, after a long journey, and a hearty meal, they sleep deliciously. The next morning he lets them look a little around them, shows them the pool or stream, where they may occasionally drink, leaves them to pick up the offal of the last night's meal, and, as evening draws on, gives them another plentiful repast under the neighbouring trees, which rain acorns upon them for an hour together, at the sound of his horn; he then sends them again to sleep. The following day he is perhaps at the pains of procuring them another meal, with music playing as usual. He then leaves them a little more to themselves, having an eye however on their evening hours; but as their bellies are full, they seldom wander far from home, retiring commonly very orderly, and early to bed. After this he throws his sty open, and leaves them to cater for themselves, and from henceforward has little more trouble with them during the whole time of their migration. Now and then, in calm weather, when mast falls sparingly, he calls them perhaps together by the music of his horn to a gratuitous meal; but, in general, they need little attention, returning regularly home at night, though they often wander two or three miles from their sty. There are experienced leaders in all herds, which have spent this roving life before, and can instruct their juniors in the method of it. By this management the herd is carried home to their respective owners in such condition, that a little dry meat will soon fatten them.

In these forest-migrations, is is commonly observed, that of whatever number the herd consists, they generally separate, in their daily excursions, into such little knots and societies as have formerly had habits of intimacy together; and in these friendly groups they range the forest, returning home at night in different parties, some earlier and some later, as they have been more or less fortunate in the pursuits of the day. They seem themselves to enjoy their mode

of life; you see them perfectly happy, going about at their ease, and conversing with each other in short, pithy, interrupted sentences, which are, no doubt, expressive of their own enjoyments, and of their social feelings.—GILPIN'S *Forest Scenery*.

THE WATERFALL AND THE EGLANTINE.

"BEGONE, thou fond presumptuous elf,"
Exclaimed a thundering voice,
"Nor dare to thrust thy foolish self
Between me and my choice!"
A small cascade fresh swoln with snows
Thus threatened a poor briar-rose,
That, all bespattered with his foam,
And dancing high and dancing low,
Was living, as a child might know,
In an unhappy home.

"Dost thou presume my course to block?
Off, off! or, puny thing!
I'll hurl thee headlong with the rock
To which thy fibres cling."
The flood was tyrannous and strong,
The patient briar suffered long,
Nor did he utter groan or sigh,
Hoping the danger would be past:
But, seeing no relief, at last
He ventured to reply.

"Ah!" said the briar, "blame me not;
Why should we dwell in strife?
We who in this sequestered spot
Once lived a happy life!
You stirred me on my rocky bed
What pleasure through my veins you spread!
The Summer long, from day to day,
My leaves you freshened and bedewed;
Nor was it common gratitude
That did your cares repay.

"When Spring came on with bud and bell,
Among these rocks did I
Before you hang my wreaths, to tell
That gentle days were nigh!
And in the sultry Summer hours,
I sheltered you with leaves and flowers;
And in my leaves—now shed and gone,
The linnet lodged, and for us two
Chanted his pretty songs, when you
Had little voice or none.

"But now proud thoughts are in your breast,
What grief is mine you see,
Ah! would you think, even yet how blest
Together we might be!
Though of both leaf and flower bereft,
Some ornaments to me are left—
Rich store of scarlet hips is mine,
With which I, in my humble way,
Would deck you many a Winter's day,
A happy eglantine!"

What more he said I cannot tell,
The torrent thundered down the dell
With aggravated haste;
I listened, nor aught else could hear;
The briar quaked—and much I fear
Those accents were his last.—WORDSWORTH.

METHINKS this single consideration of the progress of a finite spirit to perfection, will be sufficient to extinguish all envy in inferior natures, and all contempt in superior. That cherubim, which now appears as a God to a human soul, knows very well that the period will come about in eternity, when the human soul shall be as perfect as he himself now is: nay, when she shall look down upon that degree of perfection, as much as she now falls short of it. It is true the higher nature still advances, and by that means preserves his distance and superiority in the scale of being, but he knows that how high soever the station is of which he stands possessed at present, the inferior nature will at length mount up to it, and shine forth in the same degree of glory.—ADDISON.

THE YOUNG CHEMIST.

No. IV.

WHAT a pretty invention is a candle, especially a wax or a composition candle! So beautifully white, so truly rounded, and so nicely moulded into a point around the top of the wick!

I could give you a good deal of curious and useful information about the manufacture of so simple an article as a candle, and perhaps I may do so by and by; but I am now going to burn it, and to show you a little of the chemistry of its flame. Let us light the candle then;—see how steadily the flame ascends,—sharp and pointed like a spear or arrow-head. Why does the flame take this form,—why might it not be round, square, or oval, or any other shape?

I will tell you why. A candle cannot burn without air, any more than you can live without air; if you wish for a proof that air feeds the flame of a candle, we can easily make an experiment. A shorter bit of candle will do best for our purpose, about an inch long, lighted and stuck upon the table; there—now cover it over with that large tumbler, quite over, so that the edge of the glass rests upon the table. Look how dim the flame grows—yet dimmer; it flutters—it dies! Why, it did not last for a quarter of a minute! no, nor anything like it; for if the tumbler held a full quart instead of about half a pint, the flame would scarcely have lasted for fifteen seconds. I know this, because I have made the experiment before. The flame "goes out" because it is in a confined portion of air, and the glass being close upon the table prevents any fresh air from getting in to supply the flame. But see, the other candle burns on freely, because it can get a proper supply of air from all parts of the room; but if you stopped up the fire-place, windows, key-holes, and every crack or crevice in the room, this candle would go out just the same as that under the glass did just now, only it would be a longer time doing so, because it is in a larger portion of confined air. But as the air always rushes into a room through the crevices of the doors and windows, the candle always gets as much as it wants.

Hold the lighted candle opposite the key-hole of the door, there see how the flame is blown towards you by the air whistling through the key-hole.

Well then, the air comes about the candle to support the flame, and after it has done so and got very hot, it ascends towards the ceiling; more air comes forward to supply its place, and so on, during the whole time that the candle burns; so you see the flame is placed in the centre of an ascending draught of air, which urges it upwards into a sharp and pointed form. Chemists find that the quiet of the air is disturbed by the heat of the flame; that the hot air is lighter than colder, and that, therefore, the flame is unequally pressed upon.

The pressure is strongest at the lower part, weakest towards the upper part, and, therefore, the pointed form results from this unequal pressure. The flame would be as round as a marble if it could burn without disturbing the air, because then it would be equally pressed upon from all sides at once.

There are methods of showing this form of flame, but these I do not think you would be able to understand yet, and I am sure that you could not put them into practice. I will leave the candle-flame for a moment, and make a flame with another substance, which will show the pointed form more distinctly. Take one of those little balls of sewing-cotton out of the work-box, and stick it upon the end of that knitting-needle; now soak the ball in this strong

brandy, and stick the knitting-needle upright on a bit of wood; or put on your glove, and hold it in your hand: shut the doors and windows, and keep the air of the room still. There now, I light the brandy, and see what a pretty flame we get; see how round it is on the part of the ball next the needle; there the air is strongly pressing on it; how it tapers upwards where the air is pressing weakly! Move it about, hold the needle in various positions,—still the same figure is preserved. You cannot reverse the order of things, and make the flame play point downwards.

You never, by any chance, see a flame naturally with its point downwards, even when a very strong gas-flame is forced downwards artificially, it is resisted by the upward-pressure of the air below, and curved more or less into its natural position.

Look at the beautiful devices lighted with gas during public illuminations,—there, the gas-flames, although, for the most part, forced out in a straight direction, bend upwards, to assume their natural position. This pointed form of flame attracted the attention of the old chemists, and in many of their curious books, instead of writing the word *flame*, or *fire*, they put a mark or sign for it, shaped like this, △,—no bad representation of the form of a flame: and as *water* was the element opposed to fire, they reversed the mark or sign for it like this, ▽; these sort of signs were used to prevent people from understanding their curious works, but I must not speak any more about them now.

Well, then, the ascent of air towards the flame is the cause of its pointed form; but now observe how nicely the melted wax remains around the wick, confined in a sort of little cup. But why should not all the wax melt and run into a mass by the heat of the flame. Why does only that portion melt which is close to the flame, and why is it there held in this little regularly-shaped cup?

I will endeavour to explain why, as familiarly as I can, for it is a very beautiful process, and depends upon the air. See now, the flame melts a portion of the wax; very well: the air immediately rushing upwards, as I have just told you, cools and keeps cool the wax around the outside of the candle, forming, in fact, a little circular wall, within which, as within a cup, the melted wax nearest the flame is safely kept. If I destroy this cup, I instantly spoil the burning of the candle. I will hold this red-hot poker near it so as to melt down the wall of the cup; there:—now it melts away, and look, the flame cannot get its proper supply of fuel, for the melted wax runs away from the wick, and "gutters" all down the candle.

How beautifully and how effectually, then, does the air act around a candle, not only supporting its flame, but also supporting its melted fuel. If the air could not keep the outside of the candle cold, and thus form a cup, a candle would burn very badly, and would be of very little use.

I was at a great public meeting, in a large room, the other night, and there were five or six hundred candles burning, but not steadily: they were running and guttering, although of the very best manufacture. How was this? Why the company and the flames of the candles had heated the air of the room so much, that it was hot enough to melt down the walls of each candle-cup, and, therefore, they could not burn properly. In the chandelier holding two or three rows of candles, the upper rows were burning languidly, and guttering away; the bottom rows were burning better, but not well. How was this? Why they were getting the most benefit of the air, and sending it up hot and vitiated to the rows above them. You never see the branches on a chandelier set exactly over each other, but alternately, so that the hot air from the lowest row may ascend without annoying the rows above it; and this answers very well for two rows, but when there are five or six, and the chandelier hung near the ceiling of the room, the guttering and destruction of the candles is unavoidable.

The candles on the table in a hot room, burn better than those in the branches around the walls, or in the chandelier at the ceiling, because they are in a cooler situation.

The wick now requires notice. Why does it raise the melted wax from the cup, and deliver it to be burnt in the flame? I will tell you: the wick possesses a peculiar power called *capillary attraction*; I mean by this term, the rise of fluids in very small tubes,—yes, even in tubes or pipes as fine as a hair; but I will make an experiment to illustrate my meaning. There is a bit of cane about an inch long: see, it is full of small holes; I can easily blow through it: well, there is no difficulty in calling these holes very small tubes. Look, then. I just put the bit of cane so as to touch the surface of the water in this teacup. Wait a moment; and now some of the water has risen through the small holes in the cane; it is quite wet on the upper part. There is another bit of cane, and there is a tea-spoonful of turpentine. I will make a similar experiment with it: now the turpentine has risen, and I will light it; but as it burns with a good deal of smoke, put it on the hob of the grate, that we may not be annoyed. Look now, all the turpentine is drawn out of the spoon, and all burnt. But you ask me where are these little tubes in the wick of a candle? You can easily imagine that the cotton threads of the wick are laid side by side, and therefore leave little spaces between each other. Well, then, these little spaces are the tubes, and when the wax is melted, they attract it upwards just the same as the small tubes in the cane attracted up the water or the turpentine. Thus the flame is supplied with liquid fuel, and as it is burnt, the wick becomes charred and useless, forming the "snuff" of the candle.

I will tell you about the hollow nature of the flame, and its luminosity, on the next occasion.

THE Carrier-Pigeon is distinguished by a broad circle of white skin round each eye, and by the dark-blueish colour of its plumage. It will convey letters from distant parts with remarkable celerity and certainty; and this arises from the natural attachment which the birds have for the places where they have been bred. The mode of employing them is to take them to the spot whence intelligence is to be brought, to tie the letter under their wing, and to let them loose. They rise to a great height in the air, then, by an extraordinary instinct, they dart onward in a direct line to their home. Out of one hundred and ten pigeons brought from Brussels to London, in the Summer of 1830, and let fly from London, July 19, at a quarter before nine, A.M., one reached Antwerp, one hundred and eighty-six miles distance, at eighteen minutes past two, or in five hours and a half, being at the rate of nearly thirty-four miles an hour. Five more reached it within eight minutes after. Thirteen others took two hours and a half more for the journey, or eight hours in the whole. Another Pigeon went from London to Maestricht, two hundred and sixty miles, in six hours and a quarter. In January, 1831, two Pigeons, brought from Liskeard to London, were let fly from London to Cornwall. One reached Liskeard, two hundred and twenty miles' distance, in six hours, the other in a quarter of an hour more.—*Cressingham Rectory.*

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